

Transition to Reassignment Channel

Television Station: WDBJ(DT) Facility ID 71329 Roanoke, VA
Pre-Auction Ch. 18
Reassignment Ch. 30
Construction Permit LMS file# 0000029919
Transition Phase Assignment: Phase 5
Phase Testing Period Start Date: 08/03/2019
Phase Completion Date: 09/06/2019

STA purpose: To commence initial operation on reassignment Ch. 30 with an interim antenna in order to accommodate construction of replacement tower and installation of post-auction Ch. 30 main antenna and transmission line.

STA Channel: 30

STA Site Location: Antenna Structure Registration # 1024379
Adjacent to licensed Ch. 18 and authorized Ch. 30 site

STA Antenna System: Side-mount directional (Figure 1)
Horizontal polarization

STA Power and Height: 100 kW effective radiated power
15.5 meters height above ground level
1161.6 meters height above mean sea level
582.5 meters height above average terrain

STA Facility Coverage: Does not extend beyond authorized, provides required principal community coverage (Figure 2)

RF Exposure: The WDBJ transmitting facility is on a mountaintop location overlooking Roanoke. The equipment building and associated towers are within a fenced compound having a locked gate. The applicant considers access within the fenced compound to be controlled as there are warning signs and access is controlled by the fence and locked gate which serve to restrict access to authorized persons that are aware of the potential for exposure. The general public can only access locations outside the fenced compound.

At publicly accessible locations near the site (*i.e.*, locations outside the fenced compound) the calculated signal density at two meters above ground level attributable to the proposed facility was determined to be less than five percent of the general

population / uncontrolled maximum permitted exposure limit. Calculations conducted pursuant to FCC OET Bulletin Number 65 and incorporate relative field at downward angles and the associated slant distances. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

Within the fenced compound area, total RF electromagnetic field may exceed the limits for general population / uncontrolled exposure but was determined to not exceed the limits for occupational / controlled exposure. Within this area at two meters above ground level the maximum exposure level attributable to the proposed facility was determined to be 76 percent of the occupational / controlled maximum permitted exposure limit, which occurs within 11 meters horizontally from the base of the tower and well inside the fence.

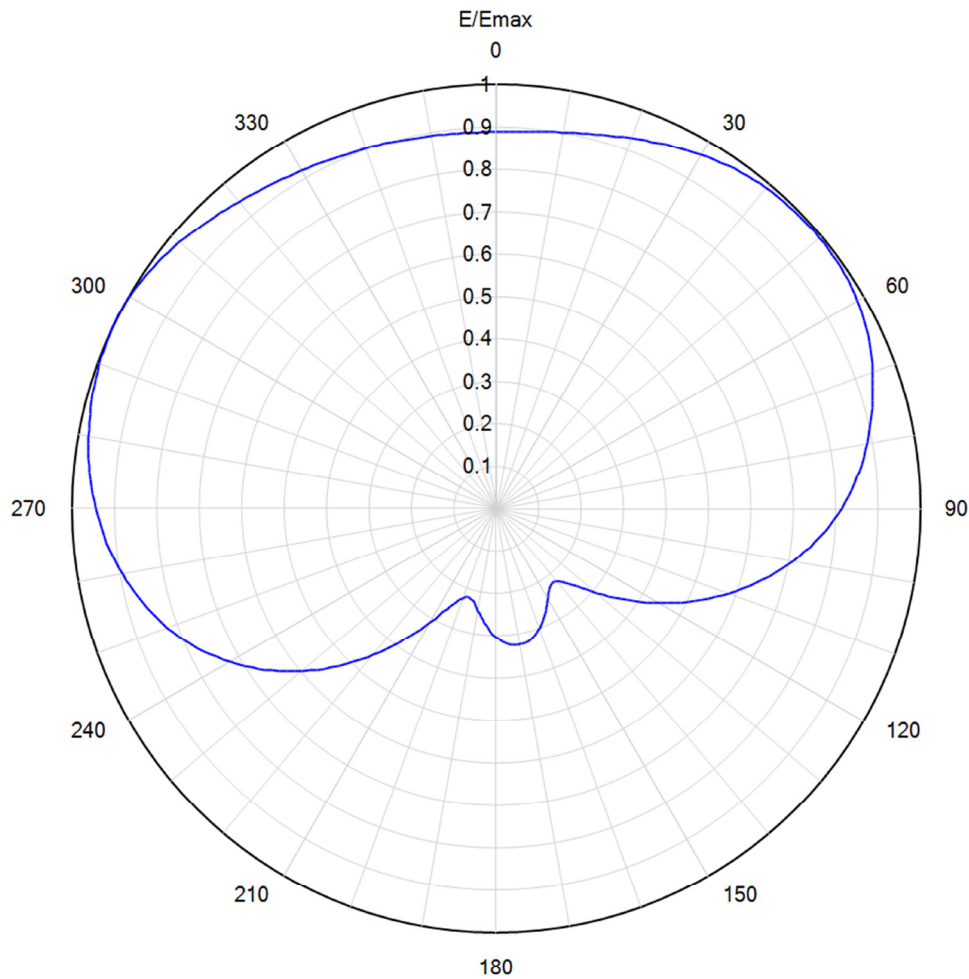
With respect to worker safety, the applicant will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E.	July 25, 2019	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



Azimuth Pattern



Model: SBB-8C170
Location:
Customer:
Date: July 25, 2019
Rotation Angle: 350 degrees

Note: Pattern Tolerance +/-5% of Emax

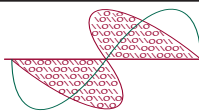
Polarization: Horizontal
Frequency: 569.00 MHz
Directivity: 1.7 (2.32 dB)
Elevation Angle: 1.00 degrees
Horizontal Unit Pattern:
File = SBB-C170-578.pat



Figure 1
Interim Antenna Azimuthal Pattern
WDBJ(DT) Roanoke, VA
Facility ID 71329
Ch. 30 100 kW 583 m

prepared for
Gray Television Licensee, LLC

July, 2019



Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 2
Proposed Interim Contour
WDBJ(DT) Roanoke, VA
Facility ID 71329
Ch. 30 100 kW 583 m

prepared for
Gray Television Licensee, LLC

July, 2019

Proposed Interim Ch. 30
100 kW 583 m directional
48 dBu
(Principal Community)
41 dBu
(Noise Limited Service Contour)

Authorized Ch. 30
LMS File# 0000029919
1000 kW 604 m nondirectional
41 dBu Contour

